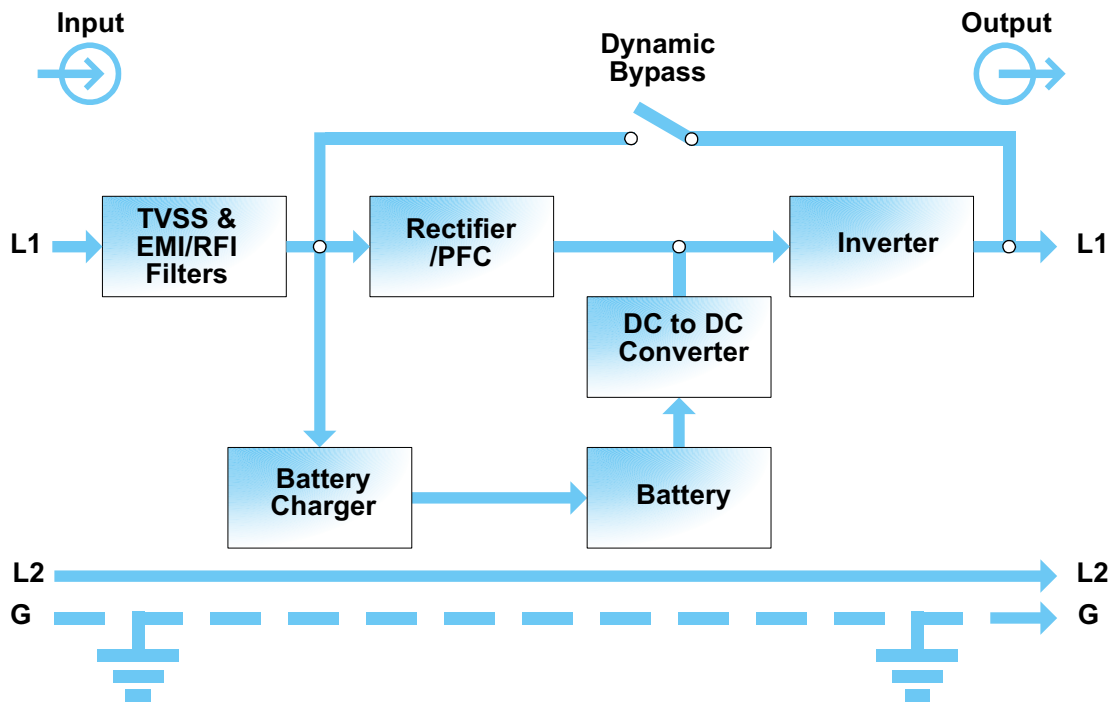


3.0 MAJOR COMPONENTS



3.1 TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) AND EMI/RFI FILTERS

These UPS components provide surge protection and filter both electromagnetic interference (EMI) and radio frequency interference (RFI). They minimize any surges or interference present in the utility line and keep the sensitive equipment protected.

3.2 RECTIFIER/POWER FACTOR CORRECTION (PFC) CIRCUIT

In normal operation, the rectifier/power factor correction (PFC) circuit converts utility AC power to regulated DC power for use by the inverter while ensuring that the waveshape of the input current used by the UPS is near ideal. Extracting this sinewave input current achieves two objectives:

- The utility power is used as efficiently as possible by the UPS.
- The amount of distortion reflected on the utility is reduced.

This results in cleaner power being available to other devices in the building not being protected by the UPStation GXT 2U.

3.3 INVERTER

In normal operation, the inverter utilizes the DC output of the power factor correction circuit and inverts it into precise, regulated sinewave AC power. Upon a utility power failure, the inverter receives its required energy from the battery through the DC to DC converter. In both modes of operation, the UPS inverter is on-line and continuously generating clean, precise, regulated AC output power.

3.4 BATTERY CHARGER

The battery charger utilizes energy from the utility power and precisely regulates it to continuously “float charge” the batteries. The batteries are being charged whenever the UPStation GXT 2U is plugged in, even when the UPS is not turned on.

3.5 DC TO DC CONVERTER

The DC to DC converter utilizes energy from the battery system and raises the DC voltage to the optimum operating voltage for the inverter. This allows the inverter to operate continuously at its optimum efficiency and voltage, thus increasing reliability.

3.6 BATTERY

The UPStation GXT 2U utilizes valve-regulated, nonspillable, flame retardant, lead acid batteries. To maintain battery design life, operate the UPS in an ambient temperature of 68°F to 77°F (20°C to 25°C). Optional external battery cabinets are available to extend battery run times.

3.7 DYNAMIC BYPASS

The UPStation GXT 2U provides an alternate path for utility power to the connected load in the unlikely event of a UPS malfunction. Should the UPS have an overload, overtemperature, or UPS failure condition, the UPS automatically transfers the connected load to bypass. Bypass operation is indicated by an audible alarm and illuminated amber Bypass LED (other LEDs may be illuminated to indicate the diagnosed problem). To manually transfer the connected load from the inverter to bypass, press the Standby button once.



NOTE

The bypass power path does NOT protect the connected equipment from disturbances on the utility supply.